

REMARKS

Reconsideration of the subject application as amended herein is respectfully requested.

The Examiner has rejected claims 12-16, 22-23 as being obvious over Wiklund. Briefly, claim 12 has been amended to recite a speaker positioning device for positioning a plurality of speakers equidistantly from a reference point. The device includes a base, an azimuth locating mechanism supported by the base and generating a beam of light, and a distance indicator that indicates when a speaker is within a predetermined distance from the reference point. The azimuth locating mechanism is rotated with respect to the reference point to position the light beam at predetermined angles and the light beam cooperates with the distance indicator to define speaker locations for the speakers, the speaker locations being disposed at said predetermined angles and at said predetermined distance from said reference point.

The Examiner has rejected claim 12 and claims dependent thereon as being obvious over the Wiklund reference. Wiklund shows an apparatus for establishing or defining measuring points which cannot be directly established by a main station. It is respectfully submitted that this reference fails to disclose a speaker position device as recited in claim 12. More specifically, Wiklund fails to disclose a device with an azimuth locating mechanism mounted on a base, said azimuth locating mechanism including a first beam generator adapted to generate a beam of light; and a distance indicator indicating when a speaker is at a predetermined distance from said reference point wherein; said azimuth locating mechanism being rotatable with respect to said base to a plurality of predetermined angles; wherein at each predetermined angle said beam of light, in cooperation with said distance indicator designates a respective speaker position, said speaker positions being disposed at said predetermined angles and at a predetermined distance

from said reference point. Accordingly, it is respectfully submitted that Wiklund fails to render the invention obvious.

The Examiner has rejected claims 17-21 and 24 as being obvious over Wiklund in combination with Kordana. The Applicants disagree on the grounds stated above, since Kordana does not satisfy the limitations discussed above. Claim 17 has been amended to further specify that at a speaker location the two beams cross each other. The crossing of the beams this signifies that the speaker is at a predetermined distance from the reference point. Kordana discloses a transit device for establishing 90 degree angles. The device consists of two lasers disposed perpendicularly to each other and arranged so that they generate two beams disposed at 90 degrees and directed away from each other. Thus, the two beams in Kordana never cross each other, and hence cannot indicate when an object is positioned correctly with respect to a reference point.

The Examiner has rejected claims 25-30 as being obvious over Toga. The Applicants disagree. Claim 25 recites a method of placing a speaker at a predetermined distance using two beams disposed at a distance equal with respect to each other. The two beams are then rotated to determine the locations of other speakers. More specifically, claim 25 recites method including:

placing a speaker locating device at said reference point, said speaker locating device including an azimuth locating mechanism including a first and a second beam generator, said beam generators being rotatable with respect to each other, said azimuth locating mechanism being rotatable about an axis passing through said reference point;

placing a first speaker in a first position spaced at said common distance from said reference point;

directing said beam generators at said first speaker along a reference axis and rotating them with respect to each other to obtain spots on said speaker having a predetermined spatial relationship;

fixing the relative position of wherein beam generators with respect to each other;

rotating azimuth locating mechanism to a position defined by a second axis at a predetermined angular offset from said reference axis;

placing a second speaker along said second axis with said spots impinging on said second speaker; and

adjusting the position of said second speaker until said spots are approximately in said predetermined spatial relationship.

On the other hand, Toga discloses a system in which two beams are disposed on a structure at preset angle from each other, usually 90 degrees, as shown in Fig. 10. Each beam is used to mark a different object. In the present invention both beams first impinge on a first object and then the second object and the positions of the spots formed by the beams are used to position of the speakers. Toga does provide rotation of the beams, however, this rotation is used so that the device can be used as a leveling device (see col. 2, lines 55-58).

Similarly, claim 26 defines a method of placing a plurality of speakers at predetermined angles and a common distance from a reference point, said method comprising:

placing a speaker locating device at said reference point, said speaker locating device including an azimuth locating mechanism including a first and a second beam generator, said beam generators being rotatable with respect to each other, said azimuth locating mechanism being rotatable about an axis passing through said reference point;

placing a first speaker in a first position spaced at said common distance from said reference point;

directing said beam generators at said first speaker along a reference axis and rotating them with respect to each other to obtain spots on said speaker having a predetermined spatial relationship;

fixing the relative position of wherein beam generators with respect to each other;

rotating azimuth locating mechanism to a position defined by a second axis at a predetermined angular offset from said reference axis;

placing a second speaker along said second axis with said spots impinging on said second speaker; and

adjusting the position of said second speaker until said spots are approximately in said predetermined spatial relationship.

Again, a method is device in which two beams are directed at a first speaker, and then rotated so that they are directed at a second speaker. Nothing like this is disclosed in Toga. Moreover, the two beams can be rotated with respect to each, the relative angle between the beams being indicative of the distance from the device to the speakers. In Toga, the angular relationship between the two beams are fixed. The Examiner takes the position that Toga discloses a device that generates two spots impinging on two objects. That is incorrect. As shown in Fig. 10, the laser beams L1, L2 are generated in such a manner that they do not impinge on the same object at the time.

The claims dependent on claim 26 are patentably distinguishable on the same grounds.

Claims 42-46 and 49-52 are rejected as being obvious over Pratt. Pratt discloses a system in which a fixed station having one or more laser beams oscillate in a horizontal plane to scan a predetermined angle. A plurality of sensors 200 are then placed at crucial positions with respect to the fixed station. The sensors determine when the laser beams impinge on them and this information is used to accurately determine the relative positions between the fixed station

and the sensors. Claim 42 as amended recites a speaker positioning tool having two beam generators mounted on a base and interlocked so that they can be turned around the base without changing their relative angle. Because the relative angle between the two beams remains constant as the beam generators are rotated, the beams define a circle around the base, with the angle and the distance between the two beams determining the with the radius of the circle. The speakers can then be positioned along the circle with the two beams impinging on each speaker simultaneously. It is respectfully submitted that this structure and mode of operation is very different from the structure described in Pratt, and therefore claim 42 and claims dependent thereon are patentably distinguishable over the prior art.

It is respectfully submitted that the subject application is patentably distinguishable over the prior art of record and therefore it should be allowed.

Respectfully submitted,

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